Chemistry
Ticket Out the Door
Set 29: Stoichiometry Intro

Name _____ Period _____

Skill 29.01 Problem 1

Carbon monoxide (CO) and oxygen gas (O_2) react form carbon dioxide (CO_2)

(a) Write a balanced reaction for this process
(b) Draw pictures to show the formation of carbon dioxide from its reactants.

Skill 29.02 Problem 1

For the reaction represented by

$N_{2(g)} + 3H_{2(g)} \rightarrow 2NH_{3(g)}$

At constant temperature and pressure, which of the following statements is/are true?

(A) 6.022×10^{23} molecules of nitrogen and $3 \times (6.022 \times 10^{23})$ molecules of hydrogen react to yield $2 \times (6.022 \times 10^{23})$ molecules of ammonia

(B) 1 molecule of nitrogen and 3 molecules of hydrogen react to yield 2 molecules of ammonia

(C) 1 atom of nitrogen and 3 atoms of hydrogen react to yield 2 atoms of ammonia

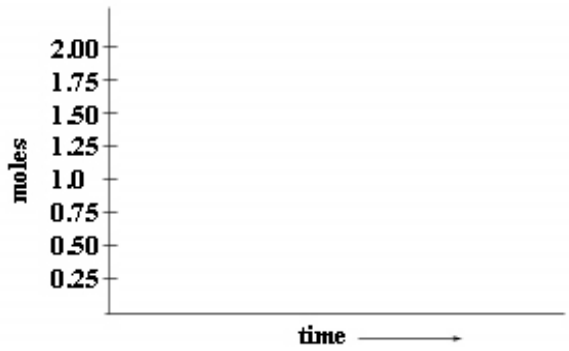
(D) 1 mole of nitrogen and 3 moles of hydrogen react to yield 2 moles of ammonia

(E) 28 grams of nitrogen and 6 grams of hydrogen react to yield 34 grams of ammonia

Name _____ Period _____

Skill 29.03 Problem 1

Carbon monoxide (CO) and oxygen gas (O_2) react form carbon dioxide (CO_2). On the graph provided, draw a sketch of how the reactants and products change over time.



Skill 29.04 Problem 1

For each of the following,

(a) Write a balanced reaction for this process
(b) Draw a picture of what happens when 2 moles of nitrogen gas react with 3 moles of hydrogen gas.
(c) Identify the limiting and excess reactant

2 moles of nitrogen gas (N_2) and 3 moles of hydrogen gas (H_2) react to form ammonia (NH_3).

2 moles of NO and 2 moles of O_2 react to form NO_2

Name _____ Period _____

2 moles of P_4 and 5 moles of O_2 react to form P_2O_5

Skill 29.04 Problem 2

Nitrogen gas (N_2) and hydrogen gas (H_2) react to form ammonia (NH_3). Given 2 moles of nitrogen and 3 moles of hydrogen, draw a sketch of how the reactants and products change over time.